

REMARKS

Introduction

Receipt is acknowledged of a non-final office action dated November 17, 2004. In the action, the examiner rejected claims 1-9 and 13 for obviousness reasons. In particular, the claims were rejected over Goto *et al.*, *Blood*, 84:1922-1930 (1994), in view of Hirano *et al.*, U.S. Patent No. 5,914,252 (claims 1, 3, 7-9 and 13), and further in view of Kang *et al.*, U.S. Patent No. 5,656,448 (claims 2, 4 and 6) or Young *et al.*, U.S. Patent No. 6,335,183 (claim 5).

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

Status of the Claims

In this response, applicants amended claims 1, 3, and 10, cancelled claim 5, and added new claim 15. Support for the amended claims can be found on page 8, line 6 of the specification and support for the new claim 15 can be found in originally filed claim 6. Upon entry of this amendment, claims 1-4, 6-9, 13 and 15 will be under examination.

Rejection of the Claims Under 35 U.S.C. § 103 for Obviousness

In the action, claims 1, 3, 7-9, and 13 were rejected as allegedly obvious over Goto, in view of Hirano. Specifically, the claims were rejected because “it would have been obvious...to modify the teaching of Goto et al to include the use of this novel membrane protein taught by Hirano et al because it is useful in the detection of rheumatoid arthritis and can be produced in large quantities.” Office action at 4. Applicants respectfully traverse this ground for rejection.

The present inventors have found (1) that the HM1.24 antigen can be solubilized by deleting 17 or less amino acid residues from the C-terminal of the full length HM1.24, while (2) maintaining the antigenicity of the HM1.24 antigen, *i.e.*, without losing antigenicity of HM1.24. This is in contrast to Goto and Hirano in that neither of these references teach the technical features of (1) and (2).

Furthermore, to establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references (or references when combined) must teach or suggest all the claim limitations. See MPEP 2142. As previously argued, Goto does not teach a soluble HM1.24 protein and therefore, the combination of Goto and Hirano do not teach, either explicitly or inherently, each and every limitation of the claimed invention. Thus, the claimed invention is not obvious in view of the cited art.

Continuing, claims 2, 4 and 6 were rejected over Goto and Hirano, in view of Kang. Applicants respectfully assert that Kang does not make up for the deficiencies in the teachings of Goto and Hirano. Accordingly, claims 2, 4 and 6 are not obvious over the cited art.

Lastly, claim 5 was rejected over Goto and Hirano, in view of Young. Without acquiescing to the examiner's rejection and in the interest of expediting prosecution, applicants canceled claim 5.

CONCLUSION

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and arguments.

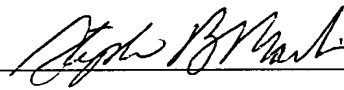
It is respectfully urged that the present application is now in condition for allowance. Early notice to that effect is earnestly solicited.

The examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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By



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